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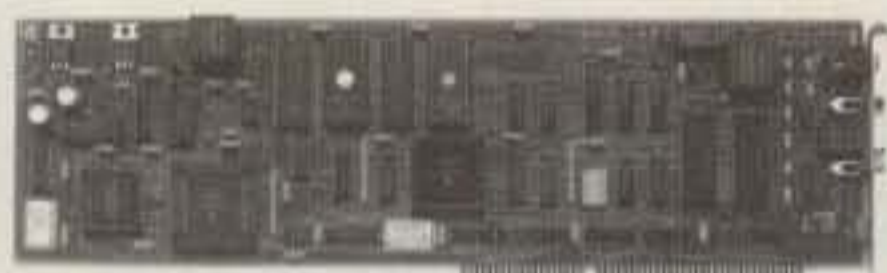
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CIRCLE 38 ON READER SERVICE CARD

## CONSTRUCTION

# How To Make A 160 Meter Quarter-Wave Sloper Antenna

*There's still plenty of life left in 160 meters, and it's not that hard to get an antenna up for top band.*

BY LEW McCOY\*, W1ICP

I had an occasion to give a lecture on antennas at a recent club meeting. Much of the talk centered around 160 meter activity. As you well know, the sunspot cycle is really in the doldrums, and when that happens, usually the low bands (80 and 160 meters) spark great interest. After my talk several amateurs gathered around to ask additional questions and tell me what they were using. Clem, W7JGU, an old friend, told me about his 160 meter sloper, which has been an outstanding performer. I asked him for the details, with the aim of passing on the information to you.

Before you get too interested, one of the requirements for this antenna is a 50 foot tower. The tower doesn't have to be exactly 50 feet, but that's what Clem has. On the other hand, many amateurs have towers, so this antenna is well worth considering. Although the antenna is very simple, it has brought very, very good results—more on that in a moment.

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Fig. 1 is a drawing of the antenna and installation. The antenna proper is a quarter wavelength radiator, 125 feet in length, plus or minus 5 feet for resonance adjustment. The angle of the antenna in relation to ground can be anything from 45 to 75 degrees. Feed is simple. Fifty ohm impedance coax is used from the station up to the antenna. The shield of the coax is connected to the tower via a good clamp. The inner conductor of the coax goes to the antenna wire. The bottom end of the antenna is connected via Kevlar line (any insulated material can be used) to a post or tree. In this case, the end of the antenna is 10 feet off the ground to avoid accidental contact. Be sure to waterproof the connection of the coax shield and inner conductor so moisture does not get into the coax. There are plenty of ways, such as the GE gel materials, to seal off the coax.

How good is the antenna? Clem has worked all states and a lot of DX on 160 meters with the antenna, operating from Tucson, Arizona. In fact, on one occasion he worked three Rhode Island stations in just an hour one evening. ■

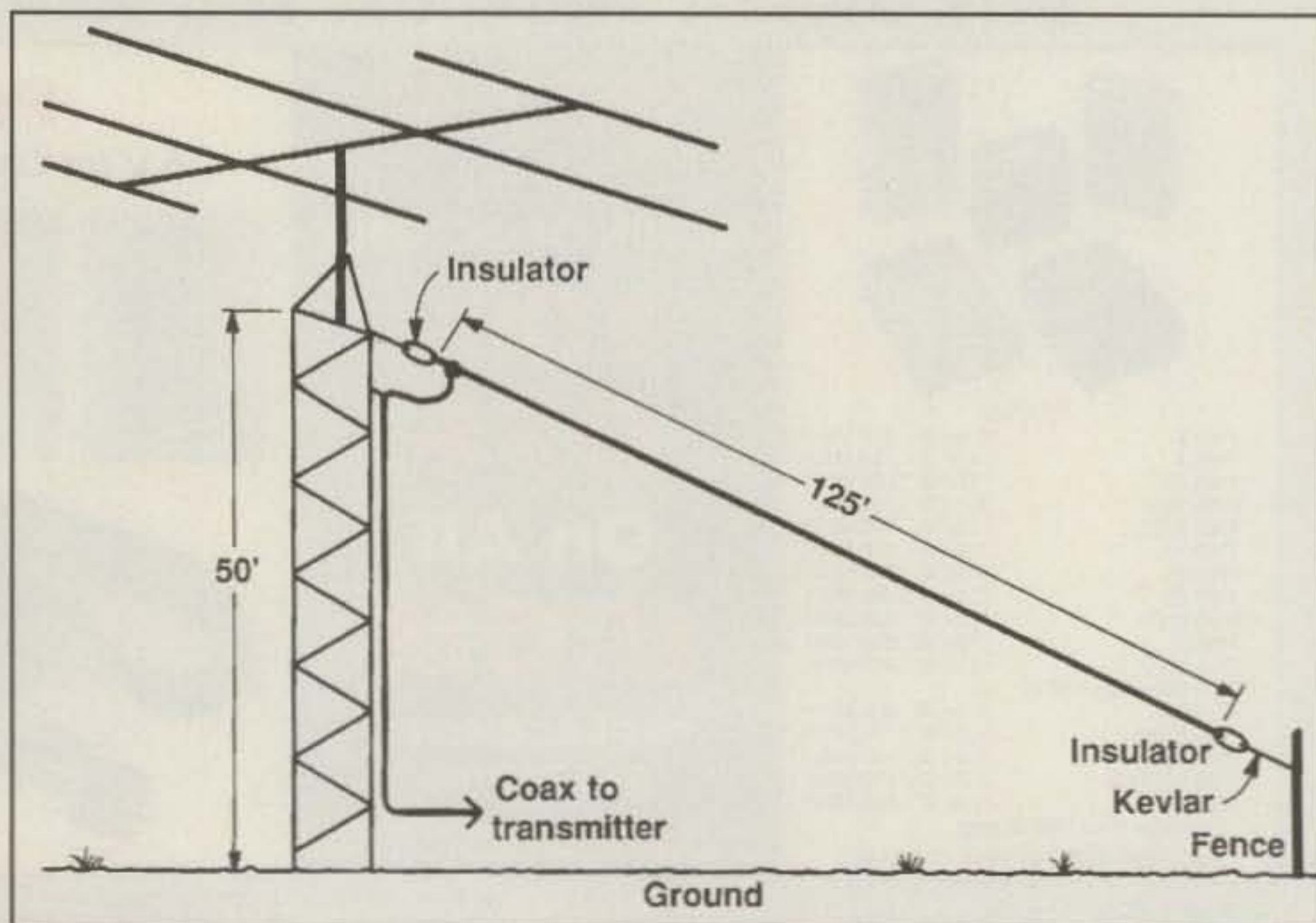


Fig. 1—The W7JGU sloper. The drawing is self-explanatory. The height of the tower doesn't have to be 50 feet, but the higher the better. We suggest running the coax very close to the tower. In other words, don't let it sway in the wind. It could upset the match. The antenna match can be checked by using an MFJ matching indicator bridge. Simply shoot for the lowest SWR by pruning the antenna length at the ground end.